

ABSTRACT

The invention relates to a rotational shearing filter comprising a housing and several spaced-apart, stationary, coaxial, annular, hollow filter disks that are disposed therein. Several shearing elements are retained in a torsion-proof manner on a central, rotatable drive shaft which penetrates the filter disks. Said shearing elements are placed next to the annular surfaces of the filter disks, which point in the axial direction of the housing, so as to keep said filter disks penetrable for filtrate that penetrates from the housing into the filter disks. In order to prevent the shearing elements and the filter elements from touching each other as a result of thermal expansion, the shearing elements that are connected to the drive shaft so as to rotate therewith are guided thereon in an axially movable manner while spacers which axially displace the shearing elements according to longitudinal modifications of the housing occurring due to thermal conditions are positioned between the shearing elements. Said spacers can be arranged directly between adjacent shearing elements and can be made of a material corresponding to the thermal expansion behavior of the housing. Alternatively, the spacers can be made of a largely random material while limiting the minimum distances between the shearing elements and the filter disks or the facing housing walls.